THIRD EXPEDITION TO NICARAGUA

by

Frank C. Seymour

On our two previous expeditions having learned a little of how to get around the country, this time we attempted more difficult trips. We were ready for more adventurous localities. "We" refers to four adventurers, namely, E. Bruce Nelson, a graduate student in the University of Vermont in the Department of Geography, official photographer, and son-in-law of the senior member. Dr. Henry K. Svenson, an outstanding veteran botanist with a world-wide reputation for his work on the Cyperaceae. John T. Atwood, Jr., companion on both previous expeditions, majoring in Bromeliaceae and Orchidaceae. Frank C. Seymour, writer of this article was leader of all three expeditions.

As on previous expeditions, we were the guests of the Escuela Nacional de Agricultura y Ganaderia in Managua. We express our deep appreciation to Dr. Noel Somarriba B., Director, and his staff, for their hospitality and the use of their laboratory and other facilities. As is our custom, we gave a set of our specimens to the Escuela to be added to their herbarium. It is estimated that that herbarium now consists of 8,000 specimens.

Any botanist, seeing a specimen of a particular number and wanting to learn more of the circumstances, can do so by looking for the number in this article. That is the purpose of appending the collection numbers at the end of the account of each day.

The first member of our party to get down to work was Svenson, who collected on the very first day in the vicinity of the Escuela the following numbers: 3946-3952. None of us wasted much time. We rented an automobile on the same day February 27th, and started promptly the following morning, February 28th for some mountains in the northwest of Nicaragua on Route 5 near the city of Tuma, in the Department of Matagalpa. (A department corresponds to a state in the U. S. A.) With brilliant red orchids, Epidendrum ibaguense HBK., lining the roadside banks of clay, and Polypodium Lindenianum Kunze decking the trees, we collected in a cloud of falling mist. Due to lush growth all around us and plenty of species which none of us had ever seen before, our field presses were soon full and we were on our way back to the laboratory of the Escuela.

A mere 502 specimens were our booty for the day. Mileage amounted to 294 kilometers. Too weary to put all of them into laboratory presses that night, many of them were kept overnight to start drying


NICARAGUA
Third
Botanical Expedition
1971
Localities of collections
marked by black circles.
HONDURAS
EL SALVADOR
PACIFIC OCEAN
CARIBBEAN SEA
COSTA RICA
Departments
by number
1. Boaco
2. Carazo
3. Chinandega
4. Chontales
5. Comarco del Cabo
6. Esteli
7. Granada
8. Jinotega
9. Leon
10. Madriz
11. Managua
12. Masaya
13. Matagalpa
14. Nueva Segovia
15. Rio San Juan
16. Rivas
17. Zelaya
18. Lake Managua
19. Lake Nicaragua
Map drawn by Ruth F. Benoit

the next morning. This was our regular procedure. Usually, it took all day to reach a collecting spot and return, so that there was no time until the next morning to complete pressing. Atwood 3953- 3976, 4011-4022, 4057- 4069. Nelson 4023-4032, 4070-4072; Seymour 4033-4055, 4073-4081; Svenson 4056, 4082-4095.

On March 1st, near the Escuela, Svenson collected Cyperus sp. 4096.

Taking for a breathing spell only that one day, on March 2nd we rose shortly after 5 a. m. early enough to catch a 7 a. m. plane for Bluefields, located on the Caribbean east coast. This was the beginning of a circuit of several days before returning to the National School.

Bluefields is cut out of a former rain-forest. As the city was settled in early days by English pirates, English is still the prevailing language in spite of the fact that Spanish is the official language. A year ago at this time, almost the entire city had been burned to the ground by an uncontrollable fire. The flames were stopped just before they reached the Moravian Church. In the amazingly short space of about 14 months the city had come to life again and was almost entirely rebuilt.

Once we were settled in Hotel Cuelo, it was too late in the day to start a long trip into the surrounding country. In vacant lots of the city , Svenson 4097; Seymour 4098; Atwood 4099-4100. On meeting casually a German gentleman, Wilhelm Brockhaus, we received from him three numbers from a nearby rain-forest, 4101-4103, which included Orthoclada laxa (L. Rich.) Beauv., a species not found by any of our party.

By 8 a. m. the next morning, March 3rd, a taxi was hurrying us past tall trees and luxuriant woods through rain-forest. A farm did not seem a vary promising collecting spot even if it had formerly been covered by rain-forest. Yet a brook running through pastures of the Jackson Farm provided a variety of habitat and afforded so much good material that our field presses were soon too full to add much more; yet we stopped here and there in the forest on the return to the city. Atwood 4104-4116, 4156-4163, 4182-4188; Nelson 4117-4123, 4164-4169, 4189-4193; Seymour 4124-4141, 4170-4178; Svenson 4142-4155 4179-4181.

Three members of our party made another sortie after 4 o'clock in the afternoon March 4th, to a place called Santa Mathilde, north of Bluefields. Atwood 4194-4202; Nelson 4203-4208; Svenson 4209-4213; Seymour collected in the city along a roadside 4214-4220.

Monkey Point or Punto Mico is such an alluring name that in our

fancy it seemed that where monkeys abound must be the home of startling new species and dazzling orchids. Chartering an ocean-going boat, we set out at 8 a. m., March 5th. For a few miles we managed to make ourselves think that the dashing spray and rolling boat were fun. By 11:15 when at last we reached monkey land we were heartily glad that half the trip was over.

To get ashore by dropping over the side into a dugout canoe, one needed to be a good monkey. Supporting a recently broken wrist, Seymour was not enough of a monkey to risk it. The others went ashore but by 3 o'clock when it was necessary to start back, we had very few specimens to show for the trip and had not yet found the new species or startling orchids or even the monkeys. On the return voyage, the boat pitched and rolled more than ever. All but Nelson were seasick. This disastrous trip cost us the modest sum of 150 cordovas or about $20.00 apiece but at least we got a long ride for our money as we did not reach the wharf again until 8:30 p. m., long after dark. Atwood 4221-4245; Nelson 4246-4259.

Going aloft again by plane the following morning, March 6th, we landed where we had been hankering for a long time to go, namely, Corn Island. Offshore islands are sometimes extraordinarily interesting botanically, like Nantucket in New England. Truly, Corn Island is one of the most beautiful spots ever seen. In front of the Playa-coco Hotel, graceful palm trees lined the shore, while fishing boats reflected their images in the sea and gentle rolling waves punctuated the varying hues of blue and green of the water, unbroken by any glimpse of land in the distance. The beach is of soft clean sand and the water beautifully clean for swimming.

The principal industry of this Island is growing coconuts. So, into a coconut grove we strolled. There Cannas were growing wild, Canna edulis Ker. Ferns were frequent, including Vittaria minima (Baker) Benedict, Polypodium Palmeri Maxon, P. persicariifolium Schrader and others, with Thalia arundinacea L. Atwood 4260-4277; Nelson 4278-4290; Seymour 4291-4315. In another spot along shore, Svenson 4316-4320.

The coconut plantation did provide some interesting plants, some still unidentified, but not enough to keep us fully entertained all the time we were compelled to stay there. Yes, the time table clearly said the plane would stop to pick up passengers daily. Anyway, we had planned to move to our next stop in our circuit the next day, March 7th, so we packed up and drove to the airport. We waited. There was nothing else to do. The plane might arrive at any minute, so what was the use of trying to collect? Just as we might find an Ophioglossum, the plane would probably arrive and we should miss it. At long last, through the silent air came a voice saying, "The plane will not land to-

day." Back to the hotel we lugged our presses and suitcases. The same performance was repeated the following day and a third day with the same result.

March 7th, Corn Island, in a coconut plantation: Atwood 4321-4338; Nelson 4339-4345; Seymour 4346-4352.

March 8th, Corn Island, "Mt. Pleasant" : Atwood 4353-4359; Nelson 4360-4370; Svenson 4371. In various spots, Svenson 4372-4384.

March 9th, Corn Island: Atwood 4385-4398; along the beach, Seymour 4399-4413. Waula Point, Svenson 4414-4422.

To add to our already heavy baggage by carrying newspapers from place to place seemed absurd. Not so in Nicaragua ! We needed a large supply of newspapers to press our collections. There we were, marooned on an island. Our newspapers were already used up. No more were obtainable there! All our ventilators were in use and still some specimens were spoiling, enfolded in mere newspapers. Clearly we needed more equipment. It was up to someone to return to Managua to get it. Seymour was it!

On our last day on Corn Island, March 10th, the plane landed as scheduled. We clambered aboard with our luggage, Seymour to stay on the plane to reach Managua while the others disembarked at Puerto Cabezas. Before boarding the plane, Svenson collected 4423-4426.

March 11th, Puerto Cabezas, on the Caribbean coast, in a locality known as Santa Mathilde. Driving along the beach southward, a brief stop was in a mangrove swamp by an estuary. Atwood 4427-4459; Nelson 4460- 4483; Svenson 4484-4514.

March 12th: Puerto Cabezas, again. Collected in a locality 3 miles west of the city in a pasture and island-forest in a savanna variously named Puente Septimo or Kamla or Tamla. Atwood 4515-4531; Nelson 4532-4535a. Proceeding to a spot 2 miles SE of the road to Waspan: Nelson 4536-4544; Svenson 4545-4564.

The two days at Puerto Cabezas brought us a rich harvest of species including a Spiranthes, 4 species of Utricularia, Burmannia capitata (Walter) Mart., 3 species of Polygala, Eriocaulon decangulare L. f. parviceps Moldenke, 5 species of Scleria, Lindsaea stricta (Sw.) Dry., Adiantum obliquum Willd., 9 species of Rhynchospora, and many others. The Cyperaceae, except Scleria, have been identified by Svenson. The species of Scleria have been identified by John E. Fairy III.

March 13th. Just before leaving Puerto Cabezas, Svenson collected 4646-4660.

March 12th. In the meantime, Seymour had picked up additional equipment in Managua and was on his way to Waspan. On the plane he met Dr. Theodore H. Rights, the head of the Thaeler Memorial Hospital in Bilwaskarma. Together they had a few minutes during a plane stop in Bonanza and gathered a few samples; Seymour and Rights 4565-4571.

Bilwaskarma, where the Hospital is located, is very close to the northern, that is, the Honduran border, in Comarco del Cabo, very near to Waspan. It is surrounded by a pine-forest where the trees grow close together, not widely scattered as on the pine savannas usually seen. The scattered, sparse growth is due to burning-over the land repeatedly. The close stand of trees is possible because the land here has been protected, not burned over. As we approached by airplane, smoke of numerous such fires was seen scattered over the landscape.

We wish to express our deep appreciation to Dr. and Mrs. Theodore H. Rights and their staff in the hospital for their delightful hospitality.

On the afternoon of the 12th, Bro. William, of a nearby mission, took Seymour to Puente Pozo Azul on Kornuk Creek. This "Creek" flows through extensive pine savannas far from cities. The water is clear and cool so that swimming there is delightful. In other parts of the country, rivers are often muddy and polluted. The bridge is remarkable as a suspension bridge. At this point the Creek has cut a deep gorge in solid rock. Whether the swimming or the plants were the greater attraction, nowhere else did we find such a notable concentration of species unless in Puerto Cabezas. Here were many species of Panicum and Cyperaceae, Mayacca fluviatilis Aubl., Utricularia, Xyris, and several Melastomataceae. Seymour 4572-4603.

March 12th. On the return to Bilwaskarma through pine savannas, several other unusual species came to hand including a Coccocypselum sp. Seymour 4604-4618.

March 13th. The three men who went to Puerto Cabezas reached Bilwaskarma in the morning of this day. While waiting for their plane to arrive in Waspan, Seymour collected along a rill, in the pine savanna 4663-4669.

Promptly on arrival in the pine-forest on the grounds of the Hospital collecting began. The numbers for this day are not in chronological order. Atwood 4619-4628; Nelson 4629-4645; Rights 4661; Seymour

4662.

March 14th. Dr. Rights took us across the pine savanna to a strange densely tangled swamp at the base of a deep pocket or depression. Characteristic species here on the banks were Helicteres guazumaefolia HBK., Panicum Haenkeanum Presl and several Melastomataceae. In the swamp was a Scleria 4692 and a strange large unidentified grass 4693. Vittaria sp. 4671. Atwood 4670-4680; Nelson 4681-4691; Svenson 4692-4693; Seymour 4695-4719.

March 14th. Dr. Rights next took us to Puente Pozo Azul on Kornuk Creek, the same place visited yesterday by Seymour. Here we added to our list many species of Rhynchospora. Atwood 4720-4724; Seymour 4725-4744; Svenson 4745-4759.

March 14th. Upstream some distance we stopped again where Kornuk Creek was shallowly bubbling over loose stones, not in any deep gorge. In a shallow, stagnant pool were 2 species of Utricularia. Atwood 4760-4763; Nelson 4764-4769a; Svenson 4773-4776.

March 14th. On the return trip through the pine savanna, Seymour 4770-4772; Atwood 4777, a palm.

March 14th. Back in the pine forest at the Hospital, Rights 4778-4781; Seymour 4782-4786; Svenson 4787-4790.

For drying our specimens, we found here the best facilities anywhere. The electrical generator for the Mission sent forth a strong blast of hot air. Our presses, put right in that current of hot air, dried quickly.

March 15th. Bilwaskarma. Atwood 4791, Bromeliad.

March 15th. Waspan. Atwood 4792.

March 15th. Francia Sirpi or France ya Sirpi, between Waspan and Puerto Cabezas. Rain-forest. Eschatogramma panamensis C. Chr., Polypodium percussum Cav., Schizaea elegans (Vahl) Sw., and Trigonidium Egertonianum Batem. were among the species collected. Atwood 4793-4821; Nelson 4822-4832.

March 15th. Bilwaskarma, near the Hospital. In partly open scrubby area: Seymour 4833-4846; Svenson 4847-4853.

March 16th. Bilwaskarma near the Hospital: Svenson 4854.

March 16th. Waspan, in the pine savanna near the airport were

Orchidaceae and several species of Rhynochospora. Atwood 4855-4858; Nelson 4859-4864; Svenson 4865-4873.

March 16th. Siuna, Department Zelaya, is a mining town surrounded by mountains. Epidendrum difforme Jacq. Atwood 4874. We were delightfully entertained in the club house of the La Luz Mining Company. Delicious as Nicaraguan food is, it was pleasant for variety to enjoy here food cooked as in New England.

March 17th. Limbaikan, Department Zelaya, on Rio Prizapolca. We collected in open swampy land near the river where stagnant pools were frequent. Then we hiked along the road, westward, for a mile or so, back toward Siuna before being picked up by the truck. Among the species are Panicum laxum Sw., P. stagnatile H. & C., P. parvifolium Lam., P. zizanioides HBK. and Psidium Guajava L. Atwood 4875-4893; Nelson 4894-4916; Seymour 4917-4941; Svenson 4942-4961.

March 17th. Between Limbaikan and Siuna. After driving several miles toward Siuna, we stopped again in the pine savanna near some shallow, stagnant pools. Here were Panicum Rudgei R. & S., more than one species of Utricularia, Eriocaulon decangulare L. f. parviceps Moldenke, and many Cyperaceae. Atwood 4962-4970; Nelson 4971; Seymour 4972-4985; Svenson 4986-5006.

March 18th. Siuna. As far as the eye could see there appeared to be not more than one pond in Siuna. It was largely filled in by vegetation, especially Eichornia species. Atwood and Seymour collected along the shore of this pond. Typha domingensis Pers. and a large Polygonum were thriving. Although not usually taking any algae, here we made an exception of acquiring an abundant alga, probably Chara. Scarcely any fertile plants of a Nymphaea could be found. Atwood 5007-5017; Seymour 5018-5025.

March 19th. Siuna to Madregava. Transportation being available, we returned to Mt. Liveco where Seymour and Atwood had been a year ago. This is a luxuriant rain-forest. Whether our collections this year were merely what we had overlooked the year before or a new array of species had come into condition, either way we found an abundance of additional species, among them, Polypodium crassifolium L., Adiantum latifolium Lam., Olyra latifolia L., several Melastomataceae, Dichronema Watsoni Britton and Calyptrocarya glomerulata, (Brongn.) Urban, and Neurolaena lobata (L.) R. Br. Atwood 5026-5043; Nelson 5044-5062; Seymour 5063-5090; Svenson 5091-5098.

March 20th. Siuna. While waiting for the plane to return us to Managua, Atwood 5099-5099a; Svenson 5100-5102.

March 20th. Managua, near the Escuela, along a parched dusty roadside: Svenson 5103, Kallstroemia sp.

March 21st. No collecting.

March 22nd. Plan Grande, Department Nueva Segovia, on the Honduran boundary. Renting an automobile again, we headed northward on the Pan American Highway, Route1. Where it turns westward, at Yalaguina, we continued northward on Route 12 through Ocotal to Plan Grande. Just at this point our auto broke down. The gear stick pulled right out of its socket! We could go no farther. There being no choice, we collected where we were. Toward the end of the afternoon, some men working on the road made temporary repairs, enabling us to reach Ocotal by careful driving. There we obtained adequate repairs. Plan Grande is a region of dry very steep mountain slopes and deep valleys, covered by forest predominantly of pine. Atwood 5104-5110; Nelson 5111-5130; Seymour 5131-5161.

March 22nd. By accident, we crossed a few feet over the boundary from Plan Grande into Honduras in a place called Las Manos. Before a hasty return to Nicaraguan soil, Seymour found Hydrocotyle mexicana C. & S., 5162 and Gnaphalium spicatum Lam. 5163. Svenson, Carex cladostachya Sw. 5164 and Cyperus sp. 5165.

March 22nd. Managua, near the Escuela, Svenson, Dalechampia scandens L. 5166.

March 24th. On this date Svenson found it necessary to return to the States. From this day forward there were only 3 in our party, Atwood, Nelson and Seymour.

March 25th. We chartered a 4 passenger plane and left Managua at 8:45 a. m. for San Carlos, arriving there at 11 a. m. Seymour collected one number, 5167, Dichronema ciliata Vahl in the airport. After an early lunch, we loaded our equipment into a motor canoe, for which arrangements had been made many months beforehand. With Sr. Rene Espinoza, pilot, and an apprentice pilot, we set out promptly downstream on the Rio San Juan toward San Juan del Norte.

Without stopping, we reached El Castillo long before dark. Before retiring, we found time to climb over the ancient Spanish fort and collect a few specimens.

The fort is the scene of a decisive battle in 1780 in which the English, attempting to dislodge the Spanish, were defeated by forces under the command of the daughter of the commandant, he having been killed.

Atwood 5168-5185; Espinoza 5186-5189; Nelson 5190-5206; Seymour

5207-5219.

After searching a long time for accomodations, our pilot returned to report that not a single bed was available in the whole city. However, he found a barge where we slung our hammocks and spent a very comfortable night, entertaining ourselves by watching with a flashlight the huge spiders, (one with a leg-spread of six inches) crawling on the ceiling overhead.

March 26th. From El Castillo we made a prompt start this morning and continued through rapids down stream. Our only stop consisted of a few minutes on the south shore of Rio San Juan in a tiny hamlet called Boca San Carlos. On the muddy bank of the river, we gathered as much as time allowed. Atwood 5220-5222; Seymour 5223-5229.

March 26th. San Juan del Norte. Here we arrived by 2 p. m. The mayor of the city met us at the landing and invited us to be his guests. Hon. Aldric Beckford, Mayor, and his family, we thank for their warm friendliness and hospitality. They served us most delicious meals.

This city is located on the Caribbean Coast at the mouth of the Rio San Juan. It is characterized by low swampy level land.

The afternoon was spent in caring for the few specimens we had been able to collect during the two days coming down the river. In San Juan del Norte, we were able to collect this day, only one number: Seymour 5230.

March 27th. San Juan del Norte. Before and after breakfast, we put specimens as fast as we could into our field presses preparing to return up the river. The only habitat we had time to visit was an open swampy field along the river. Orchids were fairly plentiful. In the river, Eichornia azurea (Sw.) Kunth was superabundant associated with a still unidentified aquatic. Cabomba piauhyensis Gardner was abundant and in fine condition. Two Utricularias were found, one a large species and abundant. Atwood 5231-5265; Nelson 5266-5284; Seymour 5285-5318.

March 27th. From San Juan del Norte to Delta. Starting promptly after lunch, we reached Delta by about nightfall. Unable to find a store where we could obtain food, we were barely able to find shelter under which to string our hammocks, so we were forced to go to sleep hungry. Needless to say, we accomplished no collecting here.

March 28th. Delta. Rising at about 5 a. m. we proceeded upstream without any breakfast. By 8 o'clock we reached a small village where we procured coffee and rolls. The sky was too cloudy to

enable us to do anything effective in drying specimens. 11 o'clock found us in El Castillo again where at last we had a good meal, the first in 24 hours. As we proceeded upstream, showers became more and more frequent, until it settled down to a steady rain. There was no encouragement to further stops along the way. By 4 o'clock we reached San Carlos again and were in the shelter of our hotel.

March 29th. San Carlos, Department Rio San Juan, being in the area of rain-forests, we were determined to get a sample of its vegetation. Hiking a short distance out of the city, we found some swampy woods which yielded a few noteworthy species such as Ceratopteris thalictroides (L.) Brongn., Oncidium pusillum (L.) Reichenb., Adiantum latifolium Lam. and in good fruit, Bixa Orellana L. In this swamp we had our only encounter with poisonous insects. Nelson walked unwittingly into a nest of some winged creature which we never stopped to identify. As he stumbled and floundered through mud, a swarm of them stung him many times about the face and hands. That night he was delirious but the next day he was apparently all right again. Atwood 5319-5328; Nelson 5329-5339; Seymour 5340-5355.

March 30th. Nueva Guinea, Department Zelaya, is a brand new city just carved out of the rain-forest along the Zapote River. (1965). Here, those whose homes had been destroyed about three months ago by the eruption of Cerro Negro - near Leon - were being resettled. Not realizing how unsettled conditions still were, we chartered an airplane and visited the city. People were standing in line to receive assignments of food, clothing and lodging. The locality produced little of botanical interest. Collecting was along lanes and roadsides in a banana plantation. Atwood 5356-5370; Nelson 5371-5382; Seymour 5383-5396.

March 31st. Nueva Guinea, airport. Atwood 5397.

April 1st. Managua near the Escuela. Seymour 5398.

April 2nd and 3rd. In Managua. No collecting.

April 4th. Boaco. Along the road to Boaco from Managua, nearly all rivers except in Tipitapa are completely dried up. The land is characteristically strewn with volcanic rocks of various sizes. Because this was Holy week we could not get beyond Boaco by taxi or auto, so we walked as far as we could toward Camouapa. The ground and vegetation were very dry. Atwood 5399-5412; Nelson 5413; Seymour 5414-5434.

April 5th. Managua near the Escuela. Seymour 5435-5437.

April 6th. Same place. Seymour 5438-5440.

April 7th. Same place. Seymour 5441-5443.

April 8th. Same place. Atwood 5444, Passiflora sp.; Seymour 5445-5449.

April 9th. Mombacho, Department Granada. Because it is one of the highest volcanic peaks in the country. to attain its summit is a continued challenge. Other collectors not associated with us have achieved it but none of our party had done so until today. The strange plants found there prove the value of more collecting. Our two men today were unable to carry back more than a few samples of the many choice plants growing there. Among them were Polypodium Wiesbaueri Sodiro, Ponera stricta Lindley, Elleanthus poiformis Schlecht. Seymour did not go on this trip. Nelson, although present, did not collect. Atwood 5450-5480.

April 9th. Managua near the Escuela; Seymour 5481, a Euphorbia.

April 10th. Managua (same place.) Atwood 5482, a Cyperus.

From April 10th until April 14th, our group remained in Managua but were unable to do any collecting. Frequently during this expedition our activities have been limited by the religious observance of Lent. While man pauses in his work for a week and more at this season, flowers continue to develop and blossom or come to fruit in utter disregard of man.

See accompanying map with locations of collections marked by circles.